

IV. CHEMICAL RELEASE AND TRANSFER PROFILE

This section is designed to provide background information on the pollutant releases that are reported by this industry. The best source of comparative pollutant release information is the Toxic Release Inventory System (TRI). Pursuant to the Emergency Planning and Community Right-to-Know Act, TRI includes self-reported facility release and transfer data for over 600 toxic chemicals. Facilities within SIC Codes 20 through 39 (manufacturing industries) that have more than ten employees, and that are above weight-based reporting thresholds are required to report TRI on-site releases and off-site transfers. The transportation equipment cleaning industry, therefore, is not required to report to TRI and no TRI data for the industry is presented in this sector notebook.

Although this sector notebook does not present historical information regarding TRI chemical releases over time, please note that in general, toxic chemical releases have been declining. In fact, according to the 1993 Toxic Release Inventory Data Book, reported releases dropped by 43 percent between 1988 and 1993. Although on-site releases have decreased, the total amount of reported toxic waste has not declined because the amount of toxic chemicals transferred off-site has increased. Transfers have increased from 3.7 billion pounds in 1991 to 4.7 billion pounds in 1993. Better management practices have led to increases in off-site transfers of toxic chemicals for recycling. More detailed information can be obtained from EPA's annual Toxics Release Inventory Public Data Release book (which is available through the EPCRA Hotline at 800-535-0202), or directly from the Toxic Release Inventory System database (for user support call 202-260-1531).

IV.A. EPA Toxic Release Inventory for the Transportation Equipment Cleaning Industry

Information on the amounts and types of toxic chemicals released and transferred from facilities conducting transportation equipment cleaning operations is extremely limited. Transportation equipment cleaning facilities are not required to report to the Toxic Release Inventory (TRI) under Emergency Planning and Community Right-to-Know Act (EPCRA) Section 313. Although many large manufacturing facilities (which do report to the TRI) carry out transportation equipment cleaning activities, it is impossible to determine from TRI data what portions of releases and transfers are generated from transportation equipment cleaning. Of the two previous EPA studies identified, both examined a small number of facilities, making any extrapolation of toxic chemical releases to the industry as a whole extremely inaccurate. In addition, data from the EPA Source Assessment Study of 1978 covered only a portion of the industry

(tank car and truck tank cleaning) as it is now regarded, and the EPA Preliminary Data Summary of 1989 examined only wastewater discharges. Information on the total releases and transfers from aircraft deicing and rail car refurbishing is especially limited due to the lack of previous studies.

IV.B. Summary of Selected Chemicals Released

The top toxic chemical releases from transportation equipment cleaning facilities could not be characterized due to the limited availability of pollutant release data for the industry.

IV.C. Other Data Sources

The primary source of toxic chemicals released and transferred from the transportation equipment cleaning industry are dissolved or suspended in wastewater generated during cleaning of tank interiors. The contaminant loading of tank cleaning wastewater can vary from a few different toxic chemicals to a mixture of many toxic chemicals depending upon what liquid is used to clean the tank and the cargo last carried. The EPA preliminary study of transportation equipment cleaning facilities performed in 1985 and 1986, analyzed wastewater samples from eight truck tank, rail tank, tank barge and aircraft cleaning facilities. A total of 111 organic priority pollutants and all 13 priority pollutant metals were detected. In addition to priority CWA pollutants, the raw wastewaters were found to contain high levels of oil and grease, suspended solids, and chemical oxygen demand (COD). The study concluded that the tank barge cleaning sector was the largest contributor of toxic chemicals followed by the tank truck cleaning sector and then the rail tank car cleaning sector.

Based on data in the 1985 and 1986 EPA study, the Agency estimated that 22 million pounds of priority pollutants are released or transferred from the transportation equipment cleaning industry per year in the form of wastewater. The EPA Source Assessment Study of 1978 estimated total VOC emissions from tank car and rail car cleaning (barges not included) was 1.25 million pounds per year. Ignoring the contribution of VOC emissions that arise from cleaning tank barges, which make up a relatively small portion of the total toxic chemicals generated by the industry, and ignoring any changes in VOC emissions since 1978, the total amount of toxic chemicals released or transferred from tank truck, rail tank car, and tank barge cleaning can be estimated at about 23 million pounds per year. In comparison, the iron and steel industry, and the pulp and paper industry released and transferred approximately 469 million, and 249 million pounds of TRI toxic chemicals in 1992, respectively.

V. POLLUTION PREVENTION OPPORTUNITIES

The best way to reduce pollution is to prevent it in the first place. Industries have creatively implemented pollution prevention techniques that improve efficiency and increase profits while at the same time minimize environmental impacts. This can be done in many ways such as reducing material inputs, re-engineering processes to reuse by-products, improving management practices, and employing substitute toxic chemicals. Some smaller facilities are able to actually get below regulatory thresholds just by reducing pollutant releases through aggressive pollution prevention policies.

In order to encourage these approaches, this section provides both general and company-specific descriptions of some pollution prevention advances that have been implemented within the transportation equipment cleaning industry. While the list is not exhaustive, it does provide core information that can be used as the starting point for facilities interested in beginning their own pollution prevention projects. When possible, this section provides information from real activities that can, or are being implemented by this sector -- including a discussion of associated costs, time frames, and expected rates of return. This section provides summary information from activities that may be, or are being implemented by this sector. When possible, information is provided that gives the context in which the technique can be effectively used. Please note that the activities described in this section do not necessarily apply to all facilities that fall within this sector. Facility-specific conditions must be carefully considered when pollution prevention options are evaluated, and the full impacts of the change must examine how each option affects air, land and water pollutant releases.

Pollution prevention opportunities for the transportation equipment cleaning industry are primarily aimed at reducing the release of pollutants through reducing the amounts of wastewater generated, recycling/reusing cleaning solution and heels, and effectively removing heels from tanks. However, these efforts also often reduce the amounts of hazardous wastes and air emissions generated. Because TECI is a service industry, and facilities receive what the customers send, source reduction is limited. Pollution prevention data is being collected in the Office of Water's detailed questionnaire for the TECI rule development. Brief descriptions of some of the more widespread pollution prevention opportunities for the industry are provided below. Because the basic steps of the tank cleaning process do not differ substantially between tank trucks, rail tank cars, barges, IBCs and intermodal bulk carriers, the pollution prevention opportunities for these different transportation modes are interchangeable. Pollution prevention techniques for exterior rail car cleaning and

refurbishing and aircraft deicing differ considerably from tank cleaning and are described separately.

Tank Cleaning Facilities

Pollution prevention opportunities for tank cleaning operations are primarily directed at reducing wastewater contaminated with tank residues and cleaning solutions. Data are not available on the extent to which pollution prevention techniques are being implemented in these operations however, it is likely that pollution prevention opportunities currently being carried out are driven by the costs to treat or dispose of contaminated wastewater and the costs of cleaning solutions. Because many tank cleaning operations are small businesses, or are small segments of medium to large businesses, many of the acceptable pollution prevention opportunities for the industry will be somewhat limited to the less costly options, such as minor process modifications, operational changes and wastes recycling. In the future, pollution prevention may be driven by the upcoming wastewater effluent guidelines if provisions for pollution prevention control technologies or practices are included.

Closed loop washing and rinsing systems. Recycling of wash and rinse water within a closed loop system can substantially reduce the volumes of wastewater generated, fugitive emissions and water use. Such systems can reduce wastewater generation by using the same washing or rinsing solution many times before it is finally discharged to the treatment system or POTW. In addition, contaminated solutions used in a wash or rinse step of one tank can later be reused in a wash or rinse step of another tank which does not require a clean solution. (e.g., the final rinse solution of one tank can be used as the initial rinse of the next tank). Through the elimination of open tank washing and continuous discharging to storage tanks and wastewater treatment systems, the potential for fugitive emissions of volatile contaminants is lowered. Closed loop systems have the potential to reduce a facility's operating costs through reduced wastewater treatment costs, reduced cleaning solution use, and reduced water use. Capital costs, potential savings, and pollutant reductions are all site specific.

Rinse and wash solution reuse. Improved management of wash and rinse solutions can reduce wastewater generation with little or no equipment or process modifications. Washing and rinsing solutions can be stored temporarily onsite to be used later in a wash or rinse step that does not require fresh solution, such as the first wash or rinse step of a highly contaminated tank. In addition, tank heels of caustics, detergents or solvents can be stored for later use as cleaning solutions for other tanks.

Some cost savings could be realized through reduced wastewater treatment costs and reduced cleaning solution costs. Capital costs may arise from increasing storage capacity.

Improved heel removal. The effectiveness of the tank heel removal step has significant impacts on the volumes and degree of contamination of wastewater generated in later steps. The removal of tank heels can be enhanced through a number of techniques, including: pumping ballast water into some tank barge compartments to tilt the vessel to facilitate residual removal, using suction or vacuum pumps, and using squeegees to remove residual from tank walls. Depending on the volumes of tank heels generated and the value of the product, it may be possible to store tank heels and, after sufficient volume has been collected, sell the product to a reclaimer or back to the manufacturer. Tank heels consisting of caustics, detergents, and solvents can be used as cleaning fluids, and acids and alkali solutions can be used to neutralize other tank heels or wastewater prior to further treatment.

Segregation of waste streams. Wastewater segregation can be an effective pollution prevention opportunity that often does not require significant process or equipment modifications. Many wastewater streams can be more effectively and economically treated if they are segregated from other streams which do not require the same degree of treatment. Highly contaminated wastewater streams, oily wastewater streams and wastewater streams containing contaminants requiring a specific treatment method (e.g., metals removal) can be segregated to reduce the volumes of wastewater receiving certain treatment steps. Wastewater treatment can also be improved by adding stages to existing wastewater treatment systems. Additional stages, such as, biological treatment, chemical precipitation, filtration, ion exchange and sludge dewatering improve system effectiveness and treatment costs through reduced sludge generation, recovery of metals for resale, and replacement of more costly treatment stages.

Rail Car Refurbishing and Maintenance

An EPA Risk Reduction Engineering Laboratory waste minimization project examined pollution prevention options for a typical rail car refurbishing and maintenance operation. The project identified a number of pollution prevention opportunities that would reduce the volume of spent solvents, spent caustics, paint chips and paint sludges shipped off-site. Some pollution prevention options that could be transferred to most facilities include: using electrostatic spray paint systems to reduce over spray losses; using ultrasonic part wash systems to reduce the need for caustic and solvent cleaners; and reclaiming and reusing spent solvents.

Capital costs are site specific. Cost savings could be realized through reduced hazardous waste disposal costs and reduced materials use.

Aircraft Deicing

Pollution prevention opportunities for aircraft deicing operations primarily focus on the collection of deicing fluid to prevent direct discharges to surrounding surface water and groundwater along with facility storm water. The most widespread collection method involves the collection of deicer through separate drainage areas around aircraft deicing operations which minimize the mixing of storm water and deicing fluid. The collection systems can either be located at the gate area or at a remote deicing area. Deicer fluid on runway and gate area surfaces can also be collected using vacuum sweeping machines, sponge rollers, and pumps. Other pollution prevention opportunities include the use of alternative, less polluting deicers, and the use of deicing gantries which carefully control the quantity of deicer fluid used.

VI. SUMMARY OF APPLICABLE FEDERAL STATUTES AND REGULATIONS

This section discusses the Federal regulations that may apply to this sector. The purpose of this section is to highlight and briefly describe the applicable Federal requirements, and to provide citations for more detailed information. The three following sections are included:

- Section VI.A contains a general overview of major statutes
- Section VI.B contains a list of regulations specific to this industry
- Section VI.C contains a list of pending and proposed regulations

The descriptions within Section VI are intended solely for general information. Depending upon the nature or scope of the activities at a particular facility, these summaries may or may not necessarily describe all applicable environmental requirements. Moreover, they do not constitute formal interpretations or clarifications of the statutes and regulations. For further information, readers should consult the Code of Federal Regulations and other state or local regulatory agencies. EPA Hotline contacts are also provided for each major statute.

VI.A. General Description of Major Statutes

Resource Conservation and Recovery Act (RCRA)

RCRA of 1976 which amended the Solid Waste Disposal Act, addresses solid (Subtitle D) and hazardous (Subtitle C) waste management activities. The Hazardous and Solid Waste Amendments (HSWA) of 1984 strengthened RCRA's waste management provisions and added Subtitle I, which governs underground storage tanks (USTs).

Regulations promulgated pursuant to Subtitle C of RCRA (40 CFR Parts 260-299) establish a "cradle-to-grave" system governing hazardous waste from the point of generation to disposal. RCRA hazardous wastes include the specific materials listed in the regulations (commercial chemical products, designated with the code "P" or "U"; hazardous wastes from specific industries/sources, designated with the code "K"; or hazardous wastes from non-specific sources, designated with the code "F") or materials which exhibit a hazardous waste characteristic (ignitibility, corrosivity, reactivity, or toxicity and designated with the code "D").

Regulated entities that generate hazardous waste are subject to waste accumulation, manifesting, and record keeping standards. Facilities that treat, store, or dispose of hazardous waste must obtain a permit, either from EPA or from a State agency which EPA has authorized to implement the permitting program. Subtitle C permits contain general facility standards

such as contingency plans, emergency procedures, record keeping and reporting requirements, financial assurance mechanisms, and unit-specific standards. RCRA also contains provisions (40 CFR Part 264 Subpart S and §264.10) for conducting corrective actions which govern the cleanup of releases of hazardous waste or constituents from solid waste management units at RCRA-regulated facilities.

Although RCRA is a Federal statute, many States implement the RCRA program. Currently, EPA has delegated its authority to implement various provisions of RCRA to 46 of the 50 States.

Most RCRA requirements are not industry specific but apply to any company that transports, treats, stores, or disposes of hazardous waste. Here are some important RCRA regulatory requirements:

- **Identification of Solid and Hazardous Wastes** (40 CFR Part 261) lays out the procedure every generator should follow to determine whether the material created is considered a hazardous waste, solid waste, or is exempted from regulation.
- **Standards for Generators of Hazardous Waste** (40 CFR Part 262) establishes the responsibilities of hazardous waste generators including obtaining an ID number, preparing a manifest, ensuring proper packaging and labeling, meeting standards for waste accumulation units, and record keeping and reporting requirements. Generators can accumulate hazardous waste for up to 90 days (or 180 days depending on the amount of waste generated) without obtaining a permit.
- **Land Disposal Restrictions** (LDRs) are regulations prohibiting the disposal of hazardous waste on land without prior treatment. Under the LDRs (40 CFR 268), materials must meet land disposal restriction (LDR) treatment standards prior to placement in a RCRA land disposal unit (landfill, land treatment unit, waste pile, or surface impoundment). Wastes subject to the LDRs include solvents, electroplating wastes, heavy metals, and acids. Generators of waste subject to the LDRs must provide notification of such to the designated TSD facility to ensure proper treatment prior to disposal.
- **Used Oil** storage and disposal regulations (40 CFR Part 279) do not define **Used Oil Management Standards** impose management requirements affecting the storage, transportation, burning, processing, and re-refining of the used oil. For parties that merely generate used oil, regulations establish storage standards. For a

party considered a used oil marketer (one who generates and sells off-specification used oil directly to a used oil burner), additional tracking and paperwork requirements must be satisfied.

- **Tanks and Containers** used to store hazardous waste with a high volatile organic concentration must meet emission standards under RCRA. Regulations (40 CFR Part 264-265, Subpart CC) require generators to test the waste to determine the concentration of the waste, to satisfy tank and container emissions standards, and to inspect and monitor regulated units. These regulations apply to all facilities who store such waste, including generators operating under the 90-day accumulation rule. (Note: implementation of this rule is expected in December of 1995 and changes are likely.)
- **Underground Storage Tanks** (USTs) containing petroleum and hazardous substance are regulated under Subtitle I of RCRA. Subtitle I regulations (40 CFR Part 280) contain tank design and release detection requirements, as well as financial responsibility and corrective action standards for USTs. The UST program also establishes increasingly stringent standards, including upgrade requirements for existing tanks, that must be met by 1998.
- **Boilers and Industrial Furnaces** (BIFs) that use or burn fuel containing hazardous waste must comply with strict design and operating standards. BIF regulations (40 CFR Part 266, Subpart H) address unit design, provide performance standards, require emissions monitoring, and restrict the type of waste that may be burned.

EPA's RCRA/Superfund/UST Hotline, at (800) 424-9346, responds to questions and distributes guidance regarding all RCRA regulations. The RCRA Hotline operates weekdays from 8:30 a.m. to 7:30 p.m., ET, excluding Federal holidays.

Comprehensive Environmental Response, Compensation, And Liability Act (CERCLA)

CERCLA, a 1980 law commonly known as Superfund, authorizes EPA to respond to releases, or threatened releases, of hazardous substances that may endanger public health, welfare, or the environment. CERCLA also enables EPA to force parties responsible for environmental contamination to clean it up or to reimburse the Superfund for response costs incurred by EPA. The Superfund Amendments and Reauthorization Act (SARA) of 1986 revised various sections of CERCLA, extended the taxing authority for the Superfund, and created a free-standing law, SARA Title III, also

known as the Emergency Planning and Community Right-to-Know Act (EPCRA).

The CERCLA **hazardous substance release reporting regulations** (40 CFR Part 302) direct the person in charge of a facility to report to the National Response Center (NRC) any environmental release of a hazardous substance which exceeds a reportable quantity. Reportable quantities are defined and listed in 40 CFR §302.4. A release report may trigger a response by EPA, or by one or more Federal or State emergency response authorities.

EPA implements **hazardous substance responses** according to procedures outlined in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR Part 300). The NCP includes provisions for permanent cleanups, known as remedial actions, and other cleanups referred to as "removals." EPA generally takes remedial actions only at sites on the National Priorities List (NPL), which currently includes approximately 1300 sites. Both EPA and states can act at other sites; however, EPA provides responsible parties the opportunity to conduct removal and remedial actions and encourages community involvement throughout the Superfund response process.

EPA's RCRA/Superfund/UST Hotline, at (800) 424-9346, answers questions and references guidance pertaining to the Superfund program. The CERCLA Hotline operates weekdays from 8:30 a.m. to 7:30 p.m., ET, excluding Federal holidays.

Emergency Planning And Community Right-To-Know Act (EPCRA)

The Superfund Amendments and Reauthorization Act (SARA) of 1986 created EPCRA, also known as SARA Title III, a statute designed to improve community access to information about chemical hazards and to facilitate the development of chemical emergency response plans by State and local governments. EPCRA required the establishment of State emergency response commissions (SERCs), responsible for coordinating certain emergency response activities and for appointing local emergency planning committees (LEPCs).

EPCRA and the EPCRA regulations (40 CFR Parts 350-372) establish four types of reporting obligations for facilities which store or manage specified chemicals:

- **EPCRA §302** requires facilities to notify the SERC and LEPC of the presence of any "extremely hazardous substance" (the list of such substances is in 40 CFR Part 355, Appendices A and B) if it

has such substance in excess of the substance's threshold planning quantity, and directs the facility to appoint an emergency response coordinator.

- **EPCRA §304** requires the facility to notify the SERC and the LEPC in the event of a release exceeding the reportable quantity of a CERCLA hazardous substance or an EPCRA extremely hazardous substance.
- **EPCRA §311 and §312** require a facility at which a hazardous chemical, as defined by the Occupational Safety and Health Act, is present in an amount exceeding a specified threshold to submit to the SERC, LEPC and local fire department material safety data sheets (MSDSs) or lists of MSDS's and hazardous chemical inventory forms (also known as Tier I and II forms). This information helps the local government respond in the event of a spill or release of the chemical.
- **EPCRA §313** requires manufacturing facilities included in SIC codes 20 through 39, which have ten or more employees, and which manufacture, process, or use specified chemicals in amounts greater than threshold quantities, to submit an annual toxic chemical release report. This report, commonly known as the Form R, covers releases and transfers of toxic chemicals to various facilities and environmental media, and allows EPA to compile the national Toxic Release Inventory (TRI) database.

All information submitted pursuant to EPCRA regulations is publicly accessible, unless protected by a trade secret claim.

EPA's EPCRA Hotline, at (800) 535-0202, answers questions and distributes guidance regarding the emergency planning and community right-to-know regulations. The EPCRA Hotline operates weekdays from 8:30 a.m. to 7:30 p.m., ET, excluding Federal holidays.

Clean Water Act (CWA)

The primary objective of the Federal Water Pollution Control Act, commonly referred to as The CWA, is to restore and maintain the chemical, physical, and biological integrity of the nation's surface waters. Pollutants regulated under the CWA include "priority" pollutants, including various toxic pollutants; "conventional" pollutants, such as biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform, oil and grease, and pH; and "non-conventional" pollutants, including any pollutant not identified as either conventional or priority.

The CWA regulates both direct and indirect discharges. The **National Pollutant Discharge Elimination System (NPDES)** program (CWA §402) controls direct discharges into navigable waters. Direct discharges or "point source" discharges are from sources such as pipes and sewers. NPDES permits, issued by either EPA or an authorized State (EPA has presently authorized forty States to administer the NPDES program), contain industry-specific, technology-based and/or water quality-based limits, and establish pollutant monitoring reporting requirements. A facility that intends to discharge into the nation's waters must obtain a permit prior to initiating a discharge. A permit applicant must provide quantitative analytical data identifying the types of pollutants present in the facility's effluent. The permit will then set forth the conditions and effluent limitations under which a facility may make a discharge.

A NPDES permit may also include discharge limits based on Federal or State water quality criteria or standards, that were designed to protect designated uses of surface waters, such as supporting aquatic life or recreation. These standards, unlike the technological standards, generally do not take into account technological feasibility or costs. Water quality criteria and standards vary from State to State, and site to site, depending on the use classification of the receiving body of water. Most States follow EPA guidelines which propose aquatic life and human health criteria for many of the 126 priority pollutants.

Storm Water Discharges

In 1987 the CWA was amended to require EPA to establish a program to address **storm water discharges**. In response, EPA promulgated the NPDES storm water permit application regulations. These regulations require that facilities with the following storm water discharges apply for an NPDES permit: (1) a discharge associated with industrial activity; (2) a discharge from a large or medium municipal storm sewer system; or (3) a discharge which EPA or the State determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

The term "storm water discharge associated with industrial activity" means a storm water discharge from one of 11 categories of industrial activity defined at 40 CFR 122.26. Six of the categories are defined by SIC codes while the other five are identified through narrative descriptions of the regulated industrial activity. If the primary SIC code of the facility is one of those identified in the regulations, the facility is subject to the storm water permit application requirements. If any activity at a facility is covered by one of the five narrative categories, storm water discharges

from those areas where the activities occur are subject to storm water discharge permit application requirements.

Those facilities/activities that are subject to storm water discharge permit application requirements are identified below. To determine whether a particular facility falls within one of these categories, the regulation should be consulted.

Category i: Facilities subject to storm water effluent guidelines, new source performance standards, or toxic pollutant effluent standards.

Category ii: Facilities classified as SIC 24-lumber and wood products (except wood kitchen cabinets); SIC 26-paper and allied products (except paperboard containers and products); SIC 28-chemicals and allied products (except drugs and paints); SIC 291-petroleum refining; and SIC 311-leather tanning and finishing.

Category iii: Facilities classified as SIC 10-metal mining; SIC 12-coal mining; SIC 13-oil and gas extraction; and SIC 14-nonmetallic mineral mining.

Category iv: Hazardous waste treatment, storage, or disposal facilities.

Category v: Landfills, land application sites, and open dumps that receive or have received industrial wastes.

Category vi: Facilities classified as SIC 5015-used motor vehicle parts; and SIC 5093-automotive scrap and waste material recycling facilities.

Category vii: Steam electric power generating facilities.

Category viii: Facilities classified as SIC 40-railroad transportation; SIC 41-local passenger transportation; SIC 42-trucking and warehousing (except public warehousing and storage); SIC 43-U.S. Postal Service; SIC 44-water transportation; SIC 45-transportation by air; and SIC 5171-petroleum bulk storage stations and terminals.

Category ix: Sewage treatment works.

Category x: Construction activities except operations that result in the disturbance of less than five acres of total land area.

Category xi: Facilities classified as SIC 20-food and kindred products; SIC 21-tobacco products; SIC 22-textile mill products; SIC 23-apparel related products; SIC 2434-wood kitchen cabinets manufacturing; SIC 25-

furniture and fixtures; SIC 265-paperboard containers and boxes; SIC 267-converted paper and paperboard products; SIC 27-printing, publishing, and allied industries; SIC 283-drugs; SIC 285-paints, varnishes, lacquer, enamels, and allied products; SIC 30-rubber and plastics; SIC 31-leather and leather products (except leather and tanning and finishing); SIC 323-glass products; SIC 34-fabricated metal products (except fabricated structural metal); SIC 35-industrial and commercial machinery and computer equipment; SIC 36-electronic and other electrical equipment and components; SIC 37-transportation equipment (except ship and boat building and repairing); SIC 38-measuring, analyzing, and controlling instruments; SIC 39-miscellaneous manufacturing industries; and SIC 4221-4225-public warehousing and storage.

Pretreatment Program

Another type of discharge that is regulated by the CWA is one that goes to a publicly-owned treatment works (POTWs). The national **pretreatment program** (CWA §307(b)) controls the indirect discharge of pollutants to POTWs by "industrial users." Facilities regulated under §307(b) must meet certain pretreatment standards. The goal of the pretreatment program is to protect municipal wastewater treatment plants from damage that may occur when hazardous, toxic, or other wastes are discharged into a sewer system and to protect the toxicity characteristics of sludge generated by these plants. Discharges to a POTW are regulated primarily by the POTW itself, rather than the State or EPA.

EPA has developed general pretreatment standards and technology-based standards for industrial users of POTWs in many industrial categories. Different standards may apply to existing and new sources within each category. "Categorical" pretreatment standards applicable to an industry on a nationwide basis are developed by EPA. In addition, another kind of pretreatment standard, "local limits," are developed by the POTW in order to assist the POTW in achieving the effluent limitations in its NPDES permit.

Regardless of whether a State is authorized to implement either the NPDES or the pretreatment program, if it develops its own program, it may enforce requirements more stringent than Federal standards.

EPA's Office of Water, at (202) 260-5700, will direct callers with questions about the CWA to the appropriate EPA office. EPA also maintains a bibliographic database of Office of Water publications which can be accessed through the Ground Water and Drinking Water resource center, at (202) 260-7786.

Safe Drinking Water Act (SDWA)

The SDWA mandates that EPA establish regulations to protect human health from contaminants in drinking water. The law authorizes EPA to develop national drinking water standards and to create a joint Federal-State system to ensure compliance with these standards. The SDWA also directs EPA to protect underground sources of drinking water through the control of underground injection of liquid wastes.

EPA has developed primary and secondary drinking water standards under its SDWA authority. EPA and authorized States enforce the primary drinking water standards, which are, contaminant-specific concentration limits that apply to certain public drinking water supplies. Primary drinking water standards consist of maximum contaminant level goals (MCLGs), which are non-enforceable health-based goals, and maximum contaminant levels (MCLs), which are enforceable limits set as close to MCLGs as possible, considering cost and feasibility of attainment.

The SDWA **Underground Injection Control (UIC)** program (40 CFR Parts 144-148) is a permit program which protects underground sources of drinking water by regulating five classes of injection wells. UIC permits include design, operating, inspection, and monitoring requirements. Wells used to inject hazardous wastes must also comply with RCRA corrective action standards in order to be granted a RCRA permit, and must meet applicable RCRA land disposal restrictions standards. The UIC permit program is primarily State-enforced, since EPA has authorized all but a few States to administer the program.

The SDWA also provides for a Federally-implemented Sole Source Aquifer program, which prohibits Federal funds from being expended on projects that may contaminate the sole or principal source of drinking water for a given area, and for a State-implemented Wellhead Protection program, designed to protect drinking water wells and drinking water recharge areas.

EPA's Safe Drinking Water Hotline, at (800) 426-4791, answers questions and distributes guidance pertaining to SDWA standards. The Hotline operates from 9:00 a.m. through 5:30 p.m., ET, excluding Federal holidays.

Toxic Substances Control Act (TSCA)

The TSCA granted EPA authority to create a regulatory framework to collect data on chemicals in order to evaluate, assess, mitigate, and control risks which may be posed by their manufacture, processing, and use. TSCA provides a variety of control methods to prevent chemicals from posing unreasonable risk.

TSCA standards may apply at any point during a chemical's life cycle. Under TSCA §5, EPA has established an inventory of chemical substances. If a chemical is not already on the inventory, and has not been excluded by TSCA, a premanufacture notice (PMN) must be submitted to EPA prior to manufacture or import. The PMN must identify the chemical and provide available information on health and environmental effects. If available data are not sufficient to evaluate the chemicals effects, EPA can impose restrictions pending the development of information on its health and environmental effects. EPA can also restrict significant new uses of chemicals based upon factors such as the projected volume and use of the chemical.

Under TSCA §6, EPA can ban the manufacture or distribution in commerce, limit the use, require labeling, or place other restrictions on chemicals that pose unreasonable risks. Among the chemicals EPA regulates under §6 authority are asbestos, chlorofluoro carbons (CFCs), and polychlorinated biphenyls (PCBs).

EPA's TSCA Assistance Information Service, at (202) 554-1404, answers questions and distributes guidance pertaining to Toxic Substances Control Act standards. The Service operates from 8:30 a.m. through 4:30 p.m., ET, excluding Federal holidays.

Clean Air Act (CAA)

The CAA and its amendments, including the Clean Air Act Amendments (CAAA) of 1990, are designed to "protect and enhance the nation's air resources so as to promote the public health and welfare and the productive capacity of the population." The CAA consists of six sections, known as Titles, which direct EPA to establish national standards for ambient air quality and for EPA and the States to implement, maintain, and enforce these standards through a variety of mechanisms. Under the CAAA, many facilities will be required to obtain permits for the first time. State and local governments oversee, manage, and enforce many of the requirements of the CAAA. CAA regulations appear at 40 CFR Parts 50-99.

Pursuant to Title I of the CAA, EPA has established national ambient air quality standards (NAAQSs) to limit levels of "criteria pollutants," including carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone, and sulfur dioxide. Geographic areas that meet NAAQSs for a given pollutant are classified as attainment areas; those that do not meet NAAQSs are classified as non-attainment areas. Under §110 of the CAA, each State must develop a State Implementation Plan (SIP) to identify sources of air pollution and to determine what reductions are required to meet Federal air quality standards.

Title I also authorizes EPA to establish New Source Performance Standards (NSPSs), which are nationally uniform emission standards for new stationary sources falling within particular industrial categories. NSPSs are based on the pollution control technology available to that category of industrial source but allow the affected industries the flexibility to devise a cost-effective means of reducing emissions.

Under Title I, EPA establishes and enforces National Emission Standards for Hazardous Air Pollutants (NESHAPs), nationally uniform standards oriented towards controlling particular hazardous air pollutants (HAPs). Title III of the CAAA further directed EPA to develop a list of sources that emit any of 189 HAPs, and to develop regulations for these categories of sources. To date EPA has listed 174 categories and developed a schedule for the establishment of emission standards. The emission standards will be developed for both new and existing sources based on "maximum achievable control technology (MACT)." The MACT is defined as the control technology achieving the maximum degree of reduction in the emission of the HAPs, taking into account cost and other factors.

Title II of the CAA pertains to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms EPA uses to regulate mobile air emission sources.

Title IV establishes a sulfur dioxide emissions program designed to reduce the formation of acid rain. Reduction of sulfur dioxide releases will be obtained by granting to certain sources limited emissions allowances, which, beginning in 1995, will be set below previous levels of sulfur dioxide releases.

Title V of the CAAA of 1990 created a permit program for all "major sources" (and certain other sources) regulated under the CAA. One purpose of the operating permit is to include in a single document all air emissions requirements that apply to a given facility. States are

developing the permit programs in accordance with guidance and regulations from EPA. Once a State program is approved by EPA, permits will be issued and monitored by that State.

Title VI is intended to protect stratospheric ozone by phasing out the manufacture of ozone-depleting chemicals and restrict their use and distribution. Production of Class I substances, including 15 kinds of chlorofluorocarbons (CFCs), will be phased out entirely by the year 2000, while certain hydrochlorofluorocarbons (HCFCs) will be phased out by 2030.

EPA's Control Technology Center, at (919) 541-0800, provides general assistance and information on CAA standards. The Stratospheric Ozone Information Hotline, at (800) 296-1996, provides general information about regulations promulgated under Title VI of the CAA, and EPA's EPCRA Hotline, at (800) 535-0202, answers questions about accidental release prevention under CAA §112(r). In addition, the Technology Transfer Network Bulletin Board System (modem access (919) 541-5742) includes recent CAA rules, EPA guidance documents, and updates of EPA activities.

VI.B. Industry Specific Requirements

Clean Water Act

Wastewater from transportation equipment cleaning facilities discharging to surface waters is regulated under the Federal Water Pollution Control Act (FWPCA). National Pollutant Discharge Elimination System (NPDES) permits must be obtained to discharge wastewater into navigable waters. As mandated by section 304(m) of CWA, EPA is developing effluent limitations guidelines for wastewater discharge from transportation equipment cleaning facilities. The guidelines are scheduled to be proposed in 1996 and promulgated in 1998. (Contact: Gina Matthews or Jan Goodwin, Office of Water, 202-260-6036 and 202-260-7152, respectively). In addition, the recent storm water rules require facilities that discharge storm water to apply for a storm water NPDES permit. Existing NPDES permits for transportation equipment cleaning facilities discharging wastewater are likely to already cover the collection, treatment and discharge of storm water. However, some additional treatment and monitoring of storm water flows may be required when NPDES permits are renewed.

Resource Conservation and Recovery Act

Several types of wastes generated from transportation equipment cleaning facilities are shipped off-site as hazardous under RCRA. The largest quantities of RCRA hazardous wastes are sludges generated during wastewater treatment. These wastes are typically either landfilled, incinerated, or otherwise treated or disposed. In addition, rail car refurbishing and maintenance operation generate hazardous wastes as wastewater treatment system sludges, paint removal, painting, and from cleaning parts with solvents and caustics. RCRA listed wastes are subject to the hazardous waste regulations of 40 CFR Parts 124, 261 through 266, 270, 271, and 302.

RCRA hazardous waste regulations defining an "empty" tank (40 CFR §261.7) are particularly relevant to the transportation equipment cleaning industry and the handling of tank heels. Tanks containing heels of RCRA regulated residues above the RCRA-empty limits are technically defined as a hazardous waste. Under RCRA rules, the waste must, therefore, be accompanied by a RCRA manifest and the facility itself must be permitted as a RCRA Treatment, Storage, or Disposal Facilities (TSDF). In practice, tank heels typically do not have RCRA manifests, and tank cleaning facilities are rarely RCRA permitted. A committee of EPA, Department of Transportation (DOT), and industry trade groups that was formed to increase the uniformity of RCRA permits, also looked at the issue of how to manifest tank residues that are above the RCRA limits. The committee agreed on a number of options that require RCRA manifests for tank heels in quantities above the RCRA-empty limits. The EPA Office of Solid Waste is currently charged with making a final decision on this issue. (Contact: Ann Codrington 202-260-4777)

Comprehensive Environmental Response, Compensation and Liability Act

A number of wastes generated from the transportation equipment cleaning refining process contain CERCLA hazardous substances. Therefore, past spills and on-site releases of such substances may require remedial clean-up actions under Superfund.

Hazardous Materials Transportation Act (HMTA)

The transport of hazardous materials is regulated by the DOT under the Hazardous Materials Transportation Act. Materials covered by the Act include all RCRA listed wastes and some additional materials deemed by DOT to be dangerous to transport. Therefore, the transport, handling and unloading of tank heels could be covered by the HMTA regulations. The

HMTA regulations (49 CFR Parts 174-177, and §§171.15, 171.16) cover packaging, labeling, shipping papers, emergency planning, incident notifications, and liability insurance. Because there is some overlap between the DOT regulation under HMTA and EPA regulations under RCRA, DOT personnel have been active on the committee formed to look at manifesting of tank residues under RCRA.

1990 Oil Pollution Act

The 1990 Oil Pollution Act affects those barge and ship tank cleaning facilities that clean vessels carrying oil. The Act establishes strict, joint and several liability against facilities that discharge oil or which pose a substantial threat of discharging oil to navigable waterways. Standards have been set for tank equipment, spill prevention control plans, and vessels. Some specific requirements include double hulls, drug and alcohol abuse policies, and on-board manning and vessels personnel policies. There are also criminal and civil penalties for deliberate or negligent spills of oil. Regulations covering response to oil discharges and contingency plans (40 CFR Part 300), and facility response plans to oil discharges (40 CFR Part 112) were revised and finalized in 1994.

OSHA and Coast Guard Safety Rules

Worker safety is regulated by the Occupational Safety and Health Administration (OSHA) (29 CFR §1910.1028) at truck, rail and airport facilities and the Coast Guard (33 USCA 1221-1232, 2718) at tank barge facilities. Safety rules specific to the management of hazardous materials deal with occupational exposure limits, personal protective equipment, materials handling procedures, safety training requirements, and confined space entry procedures.

VI.C. Pending and Proposed Regulatory Requirements

Clean Water Act

Presently, there are no effluent limitations guidelines specific to the transportation equipment cleaning industry. Effluent guidelines are currently being developed for the industry (tank interior cleaning only) by the Office of Water (Contact: Gina Matthews or Jan Goodwin, Office of Water, 202-260-6036 and 202-260-7152, respectively). EPA is under a court-ordered deadline to propose and promulgate wastewater effluent guidelines for the industry (including aircraft deicing) by the end of 1996 and 1998, respectively. The Office of Water is currently collecting more extensive and up-to-date industry data through questionnaires, site visits

to facilities, and sampling which will be used as a basis for developing the effluent limitations guidelines.

Effluent limitation guidelines for aircraft cleaning and deicing are expected to be studied and developed separately from those for tank cleaning facilities. Recently issued Federal Aviation Administration guidelines on aircraft deicing, and the recent EPA storm water rules, are likely to have significant effects on airport deicing operations. The EPA Office of Water will study the effects of these regulations before initiating its own deicing rule making. In addition, the EPA Office of Water will also work with the Department of Defense to study deicing operations at military installations. Depending on the results of this study, guidelines specific to deicing at military installations may be developed.

Resource Conservation and Recovery Act (RCRA)

A committee made up of representatives from EPA, DOT and industry trade groups that met to increase uniformity in RCRA manifests also examined the manifesting of tank heels that are above RCRA-empty limits. Presently, DOT regulates tank heels under the Hazardous Material Transportation Act (49 USCA 1801-1819), and EPA regulates the tank heels under RCRA (40 CFR Parts 262-265). The committee agreed on a number of options for manifesting of tank residues in quantities above RCRA-empty limits. EPA will issue a proposed rule on manifesting requirements based on the committee recommendations in 1995. (Ann Codrington 202-260-4777)

Sanitary Food Transportation Act (SFTA)

The Sanitary Food Transportation Act was enacted in 1990 and is implemented by the DOT. The Act aims to prevent contamination of food products from shipping containers previously used to transport toxic materials. DOT is currently developing regulations that will likely effect carriers as well as the tank cleaning industry. (Contact: Joseph Delevanko, U.S. DOT, (202) 366-4484)

